WATER WORKS

The Fort Valley Supply Believed to be Ample Some Points in its Favor.

Through the columns of the Democrat of this week we discussed, from the standpoint of a citizen and tax payer who expects to make Flagstaff his future home, the problem of water works for our town, and tried to point out in a general way the magnitude and importance of the enterprise, some of the dangers that confront us, the necessity of careful methodical business judgment and action on the part of the council, and the duty of every citizen to give the council and the enterprise his unqualified and unselfish support. In this article I wish to discuss in a more practical way, means and methods, sources of supply and general plans for the system.

Some years ago when this question was new to us all, I was told that South Denver had experimented unsuccessfully with just such a proposition as the "Fort Valley" supply. Later, I made a trip to Denver and had an extended interview with Mr. Allen, the chief engineer of the Consolidated Water Works Co. of the city of Denver, the owners of the South Denver system, who has been in charge of that plant for many years and is recognized as one of the best experts in his line. He assured me there was no similarity whatever and demonstrated by sketches that the failure of that plant would be no criticism for this one.

Further discussing our "Smith Spring" problem, he said, in substance: developing water is usually like developing a mine, no man can tell what you have under the ground, but we know there is only a small per cent of the seapage water comes to the surface. There are many large underground flows of water at the foot of all large mountains if we could find them. But he further said: this much all experienced engineers will agree, that the higher up the mountain you go for your supply the greater fluctuation you are likely to find. A spring near timber line is fed from the snows that fall above it, and when you have light snows you will have small flow, as you will also have in a long continued cold spell following dry weather; hence supplies found at the base of a mountain are much more reliable.

Further discussing the question of our system, he said he would advise us to seek a source of supply high up on the mountain only as a last resort, because we would find it expensive and extremely difficult to provide against accidents at times when speedy repairs would be found impossible and slower repairs very expensive. These suggestions impressed me at the time and have influenced me in doing what I have done on the "Fort Valley" proposition.

Messrs. Goodhue and Hinkley have opened up close to 1,000 feet of trench and pumped out a large amount of water. In February after measurements were taken, they pumped as high as 250,000 gallons and as low as 37,000 gallons per day. This was after months of frozen ground above which prevented all seapage from the snow. We had small rainfall last season and the ground was exceedingly dry, as was demonstrated later by the fact that the heavy snows of last winter melted and soaked into the ground, making scarcely any surface water. This test, while less extensive than we would desire, was made under the most adverse conditions.

It is contended that the question is one of seapage area, and that the volume of water can be increased by extending development trenches further up the gravel bed, and that opening the outlet in this manner will increase